

Applicant: Antony Howell  
Application No.: 10/617,717  
Response to Office action dated Aug. 31, 2004  
Response filed Nov. 18, 2004

#### Remarks

Claims 1–17 remain pending in the application. In the Office Action dated Aug. 31, 2004, claims 1, 3, 7–9, 11, 13 and 16–17 were rejected as obvious over *Hufgard et al.* in view of *Mancusi, Jr.* Claims 2, 4–6, 10, 12, and 14–15 were rejected as being obvious over *Hufgard et al.* In view of *Forsythe et al.*

The examiner has objected to the form of an information disclosure statement filed on Dec. 15, 2003. No information disclosure statement was filed by applicant on such date. Applicant's counsel, Lonnie R. Drayer, used private PAIR to inspect the electronic file wrapper and found that there are four "foreign references" scanned into this application's file wrapper without any accompanying information disclosure statement or PTO/SB/08 form listing the cited patents. All four of these documents relate to liquid crystal structures and reactive films, certainly not relevant to the hinge switch claimed by applicant. It appears that through a USPTO error in preparation of the electronic file wrapper, references from some other application have been improperly attached to this application's electronic file wrapper. It is requested that the documents entered Dec. 15, 2003, into this file be removed from the file and that they not be listed on the "references cited" in the current application.

*Hufgard et al.* teaches a contactless proximity switch, where the two components of the switch may be hinged with respect to each other. However *Hufgard et al.* does not show a hinge performing a biasing function. *Mancusi, Jr.* on the other hand shows a magnetic clamp, where the hinge between the two sides of the clamp is constructed of unitary plastic which is flaccid, bendable, flexible, deformable, elastic, or resilient. However, the function described for the hinge is that of flexibility: "a flexible hinge 14" (col. 3, line 57). It is contrary to the purpose of *Mancusi, Jr.* to have a hinge which significantly biases one part of the clamp away from the other. *Mancusi, Jr.* is a clamp closed by an attraction between a magnet in one jaw and a magnetic permeable member in the opposed jaw. The jaws of the clamp are opened by an

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opposing magnetic member which causes the permeable member to repel the magnet in the opposed jaw, so a spring force produced by the hinge is not necessary for opening the clamp. On the contrary, if a significant spring force were present biasing the hinge open it would interfere with the closing of the clamp. *Mancusi, Jr.* discloses closing the clamp from an open position by magnetic forces (col. 4, lines 14–16). Thus if the hinge provided a significant spring function it would be opposed to the desired functionality of the clamp and require a larger magnetic force, because the attraction of magnets is described by Coulomb's inverse-square law, even a slight increase of hinge spring force would require a significant increase in the strength of the magnetic force, which would tend to damage the tube held in the clamp. *Mancusi, Jr.* points out this problem in discussing the disadvantages of prior art valves which employ biasing springs:

The presence of the biasing spring has required that the magnetic actuating element not only overcome the inertia of the particular switch or valve, but also the force of the biasing spring which typically has a disadvantageous force-distance relation.

(Col. 1, lines 19–23). In other words, in order to overcome the additional force of a biasing spring to initiate closing, the magnetic attraction must be much greater when the valve is closed because of the inverse-square law, while the counteracting force of the biasing spring increases only linearly. *Mancusi, Jr.* teaches away from an increased closing force, as his stated intent is that the tube not be damaged (col. 4, lines 22–25). Thus the person of ordinary skill in the art would learn from *Mancusi, Jr.* to minimize the spring force of the unitary plastic hinge.

Combining *Hufgard et al.* and *Mancusi, Jr.* is thus contrary to the teaching of the references inasmuch as *Hufgard et al.* does not suggest using a unitary hinge as a biasing member, and *Mancusi, Jr.* at least implicitly teaches away from using a unitary hinge as a biasing member because such a hinge would be contrary to the purpose of *Mancusi, Jr.* To make the combination as suggested by the examiner is to use hindsight and applicant's disclosure as a blueprint to combine the references in a way not suggested by the art of record. Thus the

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examiner has failed to make a prima facie case for the rejection of claims 1 and 9 because a motivation for combining the references and the expectation of success are not found within the art of record.

Further in respect to claim 9, the examiner has not shown any suggestion in the prior art to use a U-shaped hinge. *Mancusi, Jr.* shows a V-shaped hinge.

With respect to claims 2 and 10: It is true that a stop is a generic structural element, like a hinge or a beam. However, the fact that a claimed invention is constructed from known, structural elements does not render the claim obvious, without some suggestion and expectation found within the prior art for combining the known structural elements in the way the applicant has.

With respect to claims 3 and 11, the references cited by the examiner clearly show a thickness discontinuity contrary to the claimed language.

With respect to claims 4 and 12, *Forsythe et al.* does not disclose a single piece plastic hinge, nor the shape of the single piece plastic hinge having an arm portion and the base portion where the arm portion does not overlap a portion of the base having fastener holes.

With respect to claims 5, 6, 14, and 15 the sensor types claimed are not disclosed for use with the structure claimed.

Again with respect to claims 7 and 16, a magnet receiving cavity in a structure as claimed is not shown, and has not been specifically been addressed by the examiner. The fact that *Hufgard et al.* and *Mancusi, Jr.* show a magnet within a cavity is not the same as the claimed "magnet receiving cavity" which is directed to a cavity which exists prior to being occupied by the magnet.

With respect to claim 8 and 17 has argued above the references do not provide the suggestion for a hinge of the resiliency claimed by applicant therefore they do not suggest how to choose a material to achieve the necessary resiliency.


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Similar to the argument as with respect to claim 7 and 16, the examiner and has not provided specific reasons why the limitation of claim 13 is obvious. Again the sensor cavity preexists the field sensor which is placed therein, the art of record appears to show molded in place sensors.

Applicant believes that no new matter has been added by this amendment.

Applicant submits that the claims, as amended, are in condition for allowance. Favorable action thereon is respectfully solicited.

Respectfully submitted,

  
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